

REMARKS

Applicants respectfully request reconsideration of this application. Claims 1-18 and 30-43 are pending in this application. Claims 1, 10, and 30 have been amended to more particularly point out and distinctly claim the invention. New claims 41-43 have been added. No new matter has been added. Applicant reserves all rights with respect to the Doctrine of Equivalents.

Claim Objections

Claim 10 has been amended to more particularly point out and distinctly claim the invention removing the objected to language. Applicants respectfully request that the objection be removed.

35 U.S.C. § 102(e) and 35 U.S.C. § 102(b) Rejections

Claims 1, 2, and 9 have been rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 6,872,453 to Arnaud et al. (hereinafter "Arnaud"). In light of the amendment, the Examiner's rejections have become moot. Nonetheless, the following remarks regarding the Examiner's rejections and the amended claims may be helpful to expedite prosecution.

Claim 1 relates to disposing a thermochromatic material adjacent to a carrier substrate coupled to a heat generating component. The **activation temperature** of the thermochromatic material is **above the highest desired normal range of operating temperatures** of the heat generating component.

In contrast, Arnaud discloses a thermochromatic material for a solar panel and fails to disclose or suggest all the elements of amended independent claim 1.

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Arnaud at least fails to disclose or suggest that the activation temperature of the thermochromatic material is **above** the highest desired normal range of operating temperatures of the alleged "heat generating component." In order for the solar panel to function properly, the conductive layer is specifically designed to achieve temperatures high enough to switch the reflecting/absorbing state, which is the activation temperature of the thermochromatic material. Therefore, Arnaud discloses that the activation temperature is **below** the highest desired normal range of operating temperatures of the heat generating component. Therefore, Arnaud not only fails to disclose or suggest an activation temperature **above** the normal operating temperature of the component, Arnaud actually teaches away from the invention because the thermochromatic layer in Arnaud must have an activation temperature **below** the conductive layer's normal operating temperature in order for the solar panel to function.

In view of the above remarks, a specific discussion of the dependent claims is considered to be unnecessary. Therefore, Applicants' silence regarding any dependent claim is not to be interpreted as agreement with, or acquiescence to, the rejection of such claim or as waiving any argument regarding that claim.

Nonetheless, the following remarks regarding the Examiner's rejections and the amended claims may be helpful to expedite prosecution.

Examiner asserts that a conductive layer **resembles** a printed circuit board. However, a 102 rejection requires that every element be disclosed or suggested. The test is if the reference **inherently suggests** the limitation, and not, if the element **resembles** the limitation. It is **not inherent** that a conductive layer is a

printed circuit board, and thus, the 102 rejection of claim 2 should not be sustained. Further, the rejection fails to identify in the reference the limitations of identification markings printed with the thermochromatic material, nor for detecting heat from the component, which is in excess of normal operating conditions, nor wherein the carrier substrate is selected from the group consisting of: printed circuit boards (PCB), motherboards, daughterboards, controller boards, video adapters, and network interface cards, nor wherein the heat generating component is selected from the group consisting of: processors, chipsets, graphic chips, voltage regulator components, and any combination thereof, nor wherein the visual thermal differential is useful in providing diagnostic and identification procedures.

In conclusion, the claims, as amended, are asserted to overcome the Examiner's rejections and the claims are believed to be in condition for allowance. Applicants respectfully request withdrawal of the rejection.

Claims 1-2, 6, 9-13, 30-31 and 34 have been rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 6,229,514 to Larson (hereinafter "Larson"). In light of the amendment, the Examiner's rejections have become moot. Nonetheless, the following remarks regarding the Examiner's rejections and the amended claims may be helpful to expedite prosecution.

In light of the above remarks, Larson also fails to disclose or suggest all the elements of independent claims 1 and 10, and actually teaches away from the invention. Larson discloses a display device consisting of electrodes on a substrate, which when operational become heated and heat the thermochromic material at

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least to its activation temperature. The electrode's highest normal operating temperature must be **at least equal to or above** the activation temperature of the thermochromic material in order for the display device to operate. If the activation temperature was **substantially above the highest desired normal operating temperature**, as the claim requires, then the thermochromatic material would not turn on during normal operation and the display would not function. Therefore, the activation temperature of the thermochronic material is **below** the electrode's highest normal operating temperature, and thus teaches away from the invention.

In view of the above remarks, a specific discussion of the dependent claims is considered to be unnecessary. Therefore, Applicants' silence regarding any dependent claim is not to be interpreted as agreement with, or acquiescence to, the rejection of such claim or as waiving any argument regarding that claim.

In conclusion, the claims, as amended, are asserted to overcome the Examiner's rejections and the claims are believed to be in condition for allowance. Applicants respectfully request withdrawal of the rejection.

Claims 1-3, 6, 9 -13 and 17-18, 30-31 and 38 have been rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 4,922,242 to Parker (hereinafter "Parker"). In light of the amendment, the Examiner's rejections have become moot. Nonetheless, the following remarks regarding the Examiner's rejections and the amended claims may be helpful to expedite prosecution.

In light of the above remarks, Parker also fails to disclose or suggest all the elements of the independent claims and teaches away from the invention. Parker

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discloses a display device having a thermochromatic material and a resistive element, which achieves a temperature **above** the **activation** temperature of the thermochromatic material and changes it from opaque to transparent, see abstract. Parker requires that the activation temperature be **below** the **highest normal operating temperatures** in order for the display device to turn on and function. Instead, independent claims 1, 10, 30, and 41, all require that the activation temperature be **above** the **highest** normal operating temperature of the component.

In view of the above remarks, a specific discussion of the dependent claims is considered to be unnecessary. Therefore, Applicants' silence regarding any dependent claim is not to be interpreted as agreement with, or acquiescence to, the rejection of such claim or as waiving any argument regarding that claim.

In conclusion, the claims, as amended, are asserted to overcome the Examiner's rejections and the claims are believed to be in condition for allowance. Applicants respectfully request withdrawal of the rejection.

35 U.S.C. § 103(a) Rejections

Claims 1-18 and 30-40 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Parker or Arnaud or Larson in view of U.S. Patent No. 6,880,396 to Rait (hereinafter "Rait"). In light of the amendment, the Examiner's rejections have become moot. Nonetheless, the following remarks regarding the Examiner's rejections and the amended claims may be helpful to expedite prosecution.

Rait fails to remedy the deficiencies of Parker, Arnaud, and Larson discussed above. Rait discloses a level indicator device, which fails to disclose or suggest all

the limitations of the independent claims and teaches away from the invention. The level indicator is operational when the activation temperature of the thermochromatic material is **below the highest** operating temperature of the liquid level indicator in order to detect the liquid level.

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to **modify the reference** or to combine reference teachings. Second, there must be a reasonable **expectation of success**. Finally, the prior art reference (or references when combined) must teach or suggest **all the claim limitations**. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art and not based on applicant's disclosure. *In re Vaack*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). See MPEP § 2143 - § 2143.03 for decisions pertinent to each of these criteria.

The 103 rejection and all the prior art of record fail to disclose or suggest at least all the limitations of the independent claims, as described above, and many of the limitations of the dependent claims, including but not limited to claims 34-40. Further, all the prior art of record fails to provide a reasonable expectation of success, since they all teach away from using a thermochromatic material having an activation temperature above the **highest normal operating temperature** of the devices disclosed in the references. Further, the Examiner has not provided a motivation for each of the alternative rejections to justify modifying the primary references to overcome the above described deficiencies, particularly when the secondary

reference is also deficient in at least the same features as the primary references.

In conclusion, the claims, as amended, are asserted to overcome the Examiner's rejections and the claims are believed to be in condition for allowance. Applicants respectfully request withdrawal of the rejection.

Response to Arguments

Applicant asserts that the claims as amended contain the limitation that the material property of the thermochromatic material is such that its activation temperature is **above the highest normal operating temperature** of the component, which is not a functional limitation, but a property of the thermochromatic material and the heat generating component. Therefore, it is asserted that the claims as amended further limit the thermochromatic material.

The claims, as amended, require that the thermochromatic material has its activation temperature **above the highest normal operating temperature** of the heat generating component. All of the prior art of record disclose the thermochromatic material having its activation temperature **below the highest normal operating temperature** of the component. The prior art discloses the use of the thermochromatic material to perform some normal operating function, such as turning on a display. Therefore, the activation temperature **must be below the highest normal operating temperature** of the component. The prior art fails to recognize the advantage of using the thermochromatic material as a means for

detecting overheated components, which requires that the thermochromatic material **not** be activated during normal operation, but only when the component temperature has **exceeded** its highest normal operating temperature. This requires that the activation temperature is above the highest normal operating temperature of the component.

In conclusion, the claims, as amended, are asserted to overcome the Examiner's rejections and the claims are believed to be in condition for allowance. Applicants respectfully request withdrawal of the rejection.

CONCLUSION

Applicant respectfully submits that the present application is in condition for allowance. If the Examiner believes a telephone conference would expedite or assist in the allowance of the present application, the Examiner is invited to call Michael A. Bernadieu at (408) 720-8300.

Pursuant to 37 C.F.R. 1.136(a)(3), applicant(s) hereby request and authorize the U.S. Patent and Trademark Office to (1) treat any concurrent or future reply that requires a petition for extension of time as incorporating a petition for extension of time for the appropriate length of time and (2) charge all required fees, including extension of time fees and fees under 37 C.F.R. 1.16 and 1.17, to Deposit Account No. 02-2666.

Respectfully submitted,

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